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Deprecation of MIB Module NAT-MIB:
Managed Objects for Network Address Translators (NATs)

Abstract

This memo deprecates MIB module NAT-MIB, a portion of the Management Information Base (MIB) previously defined in RFC 4008 for devices implementing Network Address Translator (NAT) function. A companion document defines a new version, NATV2-MIB, which responds to deficiencies found in module NAT-MIB and adds new capabilities.

This document obsoletes RFC 4008. All MIB objects specified in RFC 4008 are included in this version unchanged with only the STATUS changed to deprecated.

Status of This Memo

This is an Internet Standards Track document.

This document is a product of the Internet Engineering Task Force (IETF). It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG). Further information on Internet Standards is available in Section 2 of RFC 5741.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at <http://www.rfc-editor.org/info/rfc7658>.

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1. Introduction

This memo deprecates a portion of the Management Information Base (MIB), MIB module NAT-MIB, for devices implementing the Network Address Translator (NAT) function. New implementations are encouraged to base themselves upon the second version of this MIB module, NATV2-MIB, defined in [RFC7659]. NAT types and their characteristics are defined in [RFC2663]. Traditional NAT function, in particular, is defined in [RFC3022]. Neither NAT-MIB nor NATV2-MIB addresses firewall functions, and neither can be used for configuring or monitoring them.

Section 2 provides references to the Simple Network Management Protocol (SNMP) management framework, which was used as the basis for the original MIB module definition and its deprecation. Section 3 provides motivation for the deprecation of module NAT-MIB and its replacement by module NATV2-MIB. Section 4 has the complete NAT-MIB module definition, with the STATUS of all objects changed to

deprecated. Section 5 describes security considerations relating to NAT-MIB, basically relying on the security considerations in [RFC4008] and [RFC7659].

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119].

2. The Internet-Standard Management Framework

For a detailed overview of the documents that describe the current Internet-Standard Management Framework, please refer to section 7 of RFC 3410 [RFC3410].

Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. MIB objects are generally accessed through the Simple Network Management Protocol (SNMP). Objects in the MIB are defined using the mechanisms defined in the Structure of Management Information (SMI). This memo specifies a MIB module that is compliant to the SMIV2, which is described in STD 58, RFC 2578 [RFC2578], STD 58, RFC 2579 [RFC2579], and STD 58, RFC 2580 [RFC2580].

3. Motivation For Deprecating NAT-MIB

This section provides the motivation for deprecating the NAT-MIB module and its replacement by a new version.

3.1. Deprecated Features

All objects defined in [RFC4008] have been marked with "STATUS deprecated" for the following reasons:

Writability: Experience with NAT has shown that implementations vary tremendously. The NAT algorithms and data structures have little in common across devices, and this results in wildly incompatible configuration parameters. Therefore, few implementations were ever able to claim full compliance.

Lesson learned: the MIB should be read-only as much as possible.

Exposing configuration parameters: Even in read-only mode, many configuration parameters were exposed by [RFC4008] (e.g., timeouts). Since implementations vary wildly in their sets of configuration parameters, few implementations could claim even basic compliance.

Lesson learned: the NAT-MIB's purpose is not to expose configuration parameters.

Interfaces: Objects from [RFC4008] tie NAT state with interfaces (e.g., the interface table, the way map entries are grouped by interface). Many NAT implementations either never keep track of the interface or associate a mapping to a set of interfaces. Since interfaces are at the core of [RFC4008], many NAT devices were unable to have a proper implementation.

Lesson learned: NAT is a logical function that may be independent of interfaces. Do not tie NAT state with interfaces.

NAT service types: [RFC4008] used four categories of NAT service: basicNat, napt, bidirectionalNat, twiceNat. These are ill-defined, and many implementations either use different categories or do not use categories at all.

Lesson learned: do not try to categorize NAT types.

Limited transport protocol set: The set of transport protocols was defined as: other, icmp, udp, and tcp. Furthermore, the numeric values corresponding to those labels were arbitrary, without relation to the actual standard protocol numbers. This meant that NAT implementations were limited to those protocols and were unable to expose information about DCCP, SCTP, etc.

Lesson learned: use standard transport protocol numbers.

3.2. Desirable New Features

A number of desirable new features have been identified that are not present in NAT-MIB. See the latter part of Section 2 of [RFC7659].

4. Definitions

This MIB module IMPORTs objects from [RFC2578], [RFC2579], [RFC2580], [RFC2863], [RFC3411], and [RFC4001]. It also refers to information in [RFC792], [RFC4443], and [RFC3413].

NAT-MIB DEFINITIONS ::= BEGIN

IMPORTS

```
MODULE-IDENTITY,
OBJECT-TYPE,
Integer32,
Unsigned32,
Gauge32,
Counter64,
TimeTicks,
mib-2,
NOTIFICATION-TYPE
    FROM SNMPv2-SMI
TEXTUAL-CONVENTION,
StorageType,
RowStatus
    FROM SNMPv2-TC
MODULE-COMPLIANCE,
NOTIFICATION-GROUP,
OBJECT-GROUP
    FROM SNMPv2-CONF
ifIndex,
ifCounterDiscontinuityGroup
    FROM IF-MIB
SnmpAdminString
    FROM SNMP-FRAMEWORK-MIB
InetAddressType,
InetAddress,
InetAddressPortNumber
    FROM INET-ADDRESS-MIB;
```

natMIB MODULE-IDENTITY

```
LAST-UPDATED "201510020000Z" -- 2 October 2015
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    (BEHAVE) Working Group"
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DESCRIPTION

"This MIB module defines the generic managed objects for NAT.

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This version of this MIB module is part of RFC 7658; see the RFC itself for full legal notices."

REVISION "201510020000Z" -- 2 October 2015
DESCRIPTION

"Deprecation of all objects, published as RFC 7658.

See NATV2-MIB in RFC 7659 for recommended replacement."

REVISION "200503210000Z" -- 21 March 2005

DESCRIPTION

"Initial version, published as RFC 4008."

::= { mib-2 123 }

natMIBObjects OBJECT IDENTIFIER ::= { natMIB 1 }

NatProtocolType ::= TEXTUAL-CONVENTION

STATUS deprecated

DESCRIPTION

"A list of protocols that support the network address translation. Inclusion of the values is not intended to imply that those protocols need to be supported. Any change in this TEXTUAL-CONVENTION should also be reflected in the definition of NatProtocolMap, which is a BITS representation of this.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

SYNTAX INTEGER {
 none (1), -- not specified
 other (2), -- none of the following
 icmp (3),
 udp (4),
 tcp (5)
}

NatProtocolMap ::= TEXTUAL-CONVENTION

STATUS deprecated

DESCRIPTION

"A bitmap of protocol identifiers that support the network address translation. Any change in this TEXTUAL-CONVENTION should also be reflected in the definition of NatProtocolType. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

SYNTAX BITS {
 other (0),
 icmp (1),
 udp (2),
 tcp (3)
}

NatAddrMapId ::= TEXTUAL-CONVENTION

DISPLAY-HINT "d"

STATUS deprecated

DESCRIPTION

"A unique ID that is assigned to each address map by a NAT-enabled device.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

SYNTAX Unsigned32 (1..4294967295)

NatBindIdOrZero ::= TEXTUAL-CONVENTION

DISPLAY-HINT "d"

STATUS deprecated

DESCRIPTION

"A unique ID that is assigned to each bind by a NAT-enabled device. The bind ID will be zero in the case of a Symmetric NAT.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

SYNTAX Unsigned32 (0..4294967295)

NatBindId ::= TEXTUAL-CONVENTION

DISPLAY-HINT "d"

STATUS deprecated

DESCRIPTION

"A unique ID that is assigned to each bind by a NAT-enabled device.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

SYNTAX Unsigned32 (1..4294967295)

NatSessionId ::= TEXTUAL-CONVENTION

DISPLAY-HINT "d"

STATUS deprecated

DESCRIPTION

"A unique ID that is assigned to each session by a NAT-enabled device.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

SYNTAX Unsigned32 (1..4294967295)

NatBindMode ::= TEXTUAL-CONVENTION

STATUS deprecated

DESCRIPTION

"An indication of whether the bind is an address bind or an address port bind.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

SYNTAX INTEGER {
 addressBind (1),
 addressPortBind (2)}


```

    }

```

```

NatAssociationType ::= TEXTUAL-CONVENTION
    STATUS deprecated
    DESCRIPTION
        "An indication of whether the association is
        static or dynamic.
        Deprecated in favor of NATV2-MIB."
    REFERENCE    "RFC 7658, RFC 7659"
    SYNTAX       INTEGER {
        static (1),
        dynamic (2)
    }

```

```

NatTranslationEntity ::= TEXTUAL-CONVENTION
    STATUS deprecated
    DESCRIPTION
        "An indication of a) the direction of a session for
        which an address map entry, address bind, or port
        bind is applicable, and b) the entity (source or
        destination) within the session that is subject to
        translation.
        Deprecated in favor of NATV2-MIB."
    REFERENCE    "RFC 7658, RFC 7659"
    SYNTAX       BITS {
        inboundSrcEndPoint (0),
        outboundDstEndPoint(1),
        inboundDstEndPoint (2),
        outboundSrcEndPoint(3)
    }

```

```

--

```

```

-- Default Values for the Bind and NAT Protocol Timers

```

```

--

```

```

natDefTimeouts OBJECT IDENTIFIER ::= { natMIBObjects 1 }

```

```

natNotifCtrl OBJECT IDENTIFIER ::= { natMIBObjects 2 }

```

```

--

```

```

-- NAT configuration related to Address Bind and Port Bind

```

```

--

```

```

natBindDefIdleTimeout OBJECT-TYPE
    SYNTAX      Unsigned32 (0..4294967295)
    UNITS       "seconds"
    MAX-ACCESS  read-write
    STATUS      deprecated

```

DESCRIPTION

"The default Bind (Address Bind or Port Bind) idle timeout parameter.

If the agent is capable of storing non-volatile configuration, then the value of this object must be restored after a reinitialization of the management system.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

DEFVAL { 0 }

::= { natDefTimeouts 1 }

--
 -- UDP related NAT configuration
 --

natUdpDefIdleTimeout OBJECT-TYPE

SYNTAX Unsigned32 (1..4294967295)

UNITS "seconds"

MAX-ACCESS read-write

STATUS deprecated

DESCRIPTION

"The default UDP idle timeout parameter.

If the agent is capable of storing non-volatile configuration, then the value of this object must be restored after a reinitialization of the management system.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

DEFVAL { 300 }

::= { natDefTimeouts 2 }

--
 -- ICMP related NAT configuration
 --

natIcmpDefIdleTimeout OBJECT-TYPE

SYNTAX Unsigned32 (1..4294967295)

UNITS "seconds"

MAX-ACCESS read-write

STATUS deprecated

DESCRIPTION

"The default ICMP idle timeout parameter.

If the agent is capable of storing non-volatile configuration, then the value of this object must be

restored after a reinitialization of the management system.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

DEFVAL { 300 }

::= { natDefTimeouts 3 }

--
 -- Other protocol parameters
 --

natOtherDefIdleTimeout OBJECT-TYPE

SYNTAX Unsigned32 (1..4294967295)

UNITS "seconds"

MAX-ACCESS read-write

STATUS deprecated

DESCRIPTION

"The default idle timeout parameter for protocols represented by the value other (2) in NatProtocolType.

If the agent is capable of storing non-volatile configuration, then the value of this object must be restored after a reinitialization of the management system.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

DEFVAL { 60 }

::= { natDefTimeouts 4 }

--
 -- TCP related NAT Timers
 --

natTcpDefIdleTimeout OBJECT-TYPE

SYNTAX Unsigned32 (1..4294967295)

UNITS "seconds"

MAX-ACCESS read-write

STATUS deprecated

DESCRIPTION

"The default time interval that a NAT session for an established TCP connection is allowed to remain valid without any activity on the TCP connection.

If the agent is capable of storing non-volatile configuration, then the value of this object must be restored after a reinitialization of the management system.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

DEFVAL { 86400 }

::= { natDefTimeouts 5 }

natTcpDefNegTimeout OBJECT-TYPE

SYNTAX Unsigned32 (1..4294967295)

UNITS "seconds"

MAX-ACCESS read-write

STATUS deprecated

DESCRIPTION

"The default time interval that a NAT session for a TCP connection that is not in the established state is allowed to remain valid without any activity on the TCP connection.

If the agent is capable of storing non-volatile configuration, then the value of this object must be restored after a reinitialization of the management system.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

DEFVAL { 60 }

::= { natDefTimeouts 6 }

natNotifThrottlingInterval OBJECT-TYPE

SYNTAX Integer32 (0 | 5..3600)

UNITS "seconds"

MAX-ACCESS read-write

STATUS deprecated

DESCRIPTION

"This object controls the generation of the natPacketDiscard notification.

If this object has a value of zero, then no natPacketDiscard notifications will be transmitted by the agent.

If this object has a non-zero value, then the agent must not generate more than one natPacketDiscard 'notification-event' in the indicated period, where a 'notification-event' is the generation of a single notification PDU type to a list of notification destinations. If additional NAT packets are discarded within the throttling period, then notification-events for these changes must be suppressed by the agent until the current throttling period expires.

If natNotifThrottlingInterval notification generation is enabled, the suggested default throttling period is 60 seconds, but generation of the natPacketDiscard notification should be disabled by default.

If the agent is capable of storing non-volatile configuration, then the value of this object must be restored after a reinitialization of the management system.

The actual transmission of notifications is controlled via the MIB modules in RFC 3413.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

DEFVAL { 0 }

::= { natNotifCtrl 1 }

--
 -- The NAT Interface Table
 --

natInterfaceTable OBJECT-TYPE

SYNTAX SEQUENCE OF NatInterfaceEntry

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"This table specifies the attributes for interfaces on a device supporting NAT function.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natMIBObjects 3 }

natInterfaceEntry OBJECT-TYPE

SYNTAX NatInterfaceEntry

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"Each entry in the natInterfaceTable holds a set of parameters for an interface, instantiated by ifIndex. Therefore, the interface index must have been assigned, according to the applicable procedures, before it can be meaningfully used. Generally, this means that the interface must exist.

When natStorageType is of type nonVolatile, however, this may reflect the configuration for an interface whose ifIndex has been assigned but for which the supporting implementation is not currently present.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

INDEX { ifIndex }

::= { natInterfaceTable 1 }

```
NatInterfaceEntry ::= SEQUENCE {
    natInterfaceRealm          INTEGER,
    natInterfaceServiceType    BITS,
    natInterfaceInTranslates   Counter64,
    natInterfaceOutTranslates  Counter64,
    natInterfaceDiscards       Counter64,
    natInterfaceStorageType    StorageType,
    natInterfaceRowStatus      RowStatus
}
```

natInterfaceRealm OBJECT-TYPE

```
SYNTAX      INTEGER {
                private (1),
                public (2)
            }
```

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"This object identifies whether this interface is connected to the private or the public realm.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

DEFVAL { public }

::= { natInterfaceEntry 1 }

natInterfaceServiceType OBJECT-TYPE

```
SYNTAX      BITS {
                basicNat (0),
                napt (1),
                bidirectionalNat (2),
                twiceNat (3)
            }
```

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"An indication of the direction in which new sessions are permitted and the extent of translation done within the IP and transport headers.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natInterfaceEntry 2 }

natInterfaceInTranslates OBJECT-TYPE

```
SYNTAX      Counter64
MAX-ACCESS  read-only
STATUS      deprecated
DESCRIPTION
    "Number of packets received on this interface that
    were translated.
    Discontinuities in the value of this counter can occur
    at reinitialization of the management system and at
    other times as indicated by the value of
    ifCounterDiscontinuityTime on the relevant interface.
    Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659"
 ::= { natInterfaceEntry 3 }
```

natInterfaceOutTranslates OBJECT-TYPE

```
SYNTAX      Counter64
MAX-ACCESS  read-only
STATUS      deprecated
DESCRIPTION
    "Number of translated packets that were sent out this
    interface.

    Discontinuities in the value of this counter can occur
    at reinitialization of the management system and at
    other times as indicated by the value of
    ifCounterDiscontinuityTime on the relevant interface.
    Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659"
 ::= { natInterfaceEntry 4 }
```

natInterfaceDiscards OBJECT-TYPE

```
SYNTAX      Counter64
MAX-ACCESS  read-only
STATUS      deprecated
DESCRIPTION
    "Number of packets that had to be rejected/dropped due to
    a lack of resources for this interface.

    Discontinuities in the value of this counter can occur
    at reinitialization of the management system and at
    other times as indicated by the value of
    ifCounterDiscontinuityTime on the relevant interface.
    Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659"
 ::= { natInterfaceEntry 5 }
```

natInterfaceStorageType OBJECT-TYPE

```
SYNTAX      StorageType
```

```

MAX-ACCESS read-create
STATUS deprecated
DESCRIPTION
    "The storage type for this conceptual row.
    Conceptual rows having the value 'permanent'
    need not allow write-access to any columnar objects
    in the row.
    Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659, and Section 2 of RFC 2579
    (Textual Conventions for Conventions for SMIV2)."
DEFVAL { nonVolatile }
 ::= { natInterfaceEntry 6 }

```

natInterfaceRowStatus OBJECT-TYPE

```

SYNTAX RowStatus
MAX-ACCESS read-create
STATUS deprecated
DESCRIPTION
    "The status of this conceptual row.

    Until instances of all corresponding columns are
    appropriately configured, the value of the
    corresponding instance of the natInterfaceRowStatus
    column is 'notReady'.

    In particular, a newly created row cannot be made
    active until the corresponding instance of
    natInterfaceServiceType has been set.

    None of the objects in this row may be modified
    while the value of this object is active(1).
    Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659, and Section 2 of RFC 2579
    (Textual Conventions for Conventions for SMIV2)."
 ::= { natInterfaceEntry 7 }

```

```

--
-- The Address Map Table
--

```

natAddrMapTable OBJECT-TYPE

```

SYNTAX SEQUENCE OF NatAddrMapEntry
MAX-ACCESS not-accessible
STATUS deprecated
DESCRIPTION
    "This table lists address map parameters for NAT.
    Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"

```



```
::= { natMIBObjects 4 }
```

```
natAddrMapEntry OBJECT-TYPE
```

```
SYNTAX      NatAddrMapEntry
```

```
MAX-ACCESS  not-accessible
```

```
STATUS      deprecated
```

```
DESCRIPTION
```

```
"This entry represents an address map to be used for
NAT and contributes to the dynamic and/or static
address mapping tables of the NAT device.
```

```
Deprecated in favor of NATV2-MIB."
```

```
REFERENCE   "RFC 7658, RFC 7659"
```

```
INDEX       { ifIndex, natAddrMapIndex }
```

```
::= { natAddrMapTable 1 }
```

```
NatAddrMapEntry ::= SEQUENCE {
```

natAddrMapIndex	NatAddrMapId,
natAddrMapName	SnmpAdminString,
natAddrMapEntryType	NatAssociationType,
natAddrMapTranslationEntity	NatTranslationEntity,
natAddrMapLocalAddrType	InetAddressType,
natAddrMapLocalAddrFrom	InetAddress,
natAddrMapLocalAddrTo	InetAddress,
natAddrMapLocalPortFrom	InetPortNumber,
natAddrMapLocalPortTo	InetPortNumber,
natAddrMapGlobalAddrType	InetAddressType,
natAddrMapGlobalAddrFrom	InetAddress,
natAddrMapGlobalAddrTo	InetAddress,
natAddrMapGlobalPortFrom	InetPortNumber,
natAddrMapGlobalPortTo	InetPortNumber,
natAddrMapProtocol	NatProtocolMap,
natAddrMapInTranslates	Counter64,
natAddrMapOutTranslates	Counter64,
natAddrMapDiscards	Counter64,
natAddrMapAddrUsed	Gauge32,
natAddrMapStorageType	StorageType,
natAddrMapRowStatus	RowStatus

```
}
```

```
natAddrMapIndex OBJECT-TYPE
```

```
SYNTAX      NatAddrMapId
```

```
MAX-ACCESS  not-accessible
```

```
STATUS      deprecated
```

```
DESCRIPTION
```

```
"Along with ifIndex, this object uniquely
identifies an entry in the natAddrMapTable.
Address map entries are applied in the order
specified by natAddrMapIndex."
```

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrMapEntry 1 }

natAddrMapName OBJECT-TYPE

SYNTAX SnmpAdminString (SIZE(1..32))

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"Name identifying all map entries in the table associated with the same interface. All map entries with the same ifIndex MUST have the same map name.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrMapEntry 2 }

natAddrMapEntryType OBJECT-TYPE

SYNTAX NatAssociationType

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"This parameter can be used to set up static or dynamic address maps.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrMapEntry 3 }

natAddrMapTranslationEntity OBJECT-TYPE

SYNTAX NatTranslationEntity

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"The endpoint entity (source or destination) in inbound or outbound sessions (i.e., first packets) that may be translated by an address map entry.

Session direction (inbound or outbound) is derived from the direction of the first packet of a session traversing a NAT interface.

NAT address (and Transport-ID) maps may be defined to effect inbound or outbound sessions.

Traditionally, address maps for Basic NAT and NATP are configured on a public interface for outbound sessions, effecting translation of source endpoint. The value of this object must be set to outboundSrcEndPoint for those interfaces.

Alternately, if address maps for Basic NAT and NAPT were to be configured on a private interface, the desired value for this object for the map entries would be inboundSrcEndPoint (i.e., effecting translation of source endpoint for inbound sessions).

If twiceNAT were to be configured on a private interface, the desired value for this object for the map entries would be a bitmask of inboundSrcEndPoint and inboundDstEndPoint.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 4 }

natAddrMapLocalAddrType OBJECT-TYPE

SYNTAX InetAddressType
 MAX-ACCESS read-create
 STATUS deprecated
 DESCRIPTION

"This object specifies the address type used for natAddrMapLocalAddrFrom and natAddrMapLocalAddrTo. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 5 }

natAddrMapLocalAddrFrom OBJECT-TYPE

SYNTAX InetAddress
 MAX-ACCESS read-create
 STATUS deprecated
 DESCRIPTION

"This object specifies the first IP address of the range of IP addresses mapped by this translation entry. The value of this object must be less than or equal to the value of the natAddrMapLocalAddrTo object.

The type of this address is determined by the value of the natAddrMapLocalAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 6 }

natAddrMapLocalAddrTo OBJECT-TYPE

SYNTAX InetAddress
 MAX-ACCESS read-create
 STATUS deprecated
 DESCRIPTION

"This object specifies the last IP address of the range of IP addresses mapped by this translation entry. If

only a single address is being mapped, the value of this object is equal to the value of natAddrMapLocalAddrFrom. For a static NAT, the number of addresses in the range defined by natAddrMapLocalAddrFrom and natAddrMapLocalAddrTo must be equal to the number of addresses in the range defined by natAddrMapGlobalAddrFrom and natAddrMapGlobalAddrTo. The value of this object must be greater than or equal to the value of the natAddrMapLocalAddrFrom object.

The type of this address is determined by the value of the natAddrMapLocalAddrType object.
 Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 7 }

natAddrMapLocalPortFrom OBJECT-TYPE

SYNTAX InetPortNumber
 MAX-ACCESS read-create
 STATUS deprecated

DESCRIPTION

"If this conceptual row describes a Basic NAT address mapping, then the value of this object must be zero. If this conceptual row describes NAPT, then the value of this object specifies the first port number in the range of ports being mapped.

The value of this object must be less than or equal to the value of the natAddrMapLocalPortTo object. If the translation specifies a single port, then the value of this object is equal to the value of natAddrMapLocalPortTo.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 DEFVAL { 0 }
 ::= { natAddrMapEntry 8 }

natAddrMapLocalPortTo OBJECT-TYPE

SYNTAX InetPortNumber
 MAX-ACCESS read-create
 STATUS deprecated

DESCRIPTION

"If this conceptual row describes a Basic NAT address mapping, then the value of this object must be zero. If this conceptual row describes NAPT, then the value of this object specifies the last port number in the range of ports being mapped.

The value of this object must be greater than or equal to the value of the natAddrMapLocalPortFrom object. If the translation specifies a single port, then the value of this object is equal to the value of natAddrMapLocalPortFrom.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

DEFVAL { 0 }

::= { natAddrMapEntry 9 }

natAddrMapGlobalAddrType OBJECT-TYPE

SYNTAX InetAddressType

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"This object specifies the address type used for natAddrMapGlobalAddrFrom and natAddrMapGlobalAddrTo.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrMapEntry 10 }

natAddrMapGlobalAddrFrom OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"This object specifies the first IP address of the range of IP addresses being mapped to. The value of this object must be less than or equal to the value of the natAddrMapGlobalAddrTo object.

The type of this address is determined by the value of the natAddrMapGlobalAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrMapEntry 11 }

natAddrMapGlobalAddrTo OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"This object specifies the last IP address of the range of IP addresses being mapped to. If only a single address is being mapped to, the value of this object is equal to the value of natAddrMapGlobalAddrFrom. For a static NAT, the number of addresses in the range defined by natAddrMapGlobalAddrFrom and natAddrMapGlobalAddrTo

must be equal to the number of addresses in the range defined by natAddrMapLocalAddrFrom and natAddrMapLocalAddrTo. The value of this object must be greater than or equal to the value of the natAddrMapGlobalAddrFrom object.

The type of this address is determined by the value of the natAddrMapGlobalAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrMapEntry 12 }

natAddrMapGlobalPortFrom OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"If this conceptual row describes a Basic NAT address mapping, then the value of this object must be zero. If this conceptual row describes NAPT, then the value of this object specifies the first port number in the range of ports being mapped to.

The value of this object must be less than or equal to the value of the natAddrMapGlobalPortTo object. If the translation specifies a single port, then the value of this object is equal to the value natAddrMapGlobalPortTo.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

DEFVAL { 0 }

::= { natAddrMapEntry 13 }

natAddrMapGlobalPortTo OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS read-create

STATUS deprecated

DESCRIPTION

"If this conceptual row describes a Basic NAT address mapping, then the value of this object must be zero. If this conceptual row describes NAPT, then the value of this object specifies the last port number in the range of ports being mapped to.

The value of this object must be greater than or equal to the value of the natAddrMapGlobalPortFrom object. If the translation specifies a single port, then the value of this object is equal to the value of

natAddrMapGlobalPortFrom.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
DEFVAL { 0 }
 ::= { natAddrMapEntry 14 }

natAddrMapProtocol OBJECT-TYPE

SYNTAX NatProtocolMap
MAX-ACCESS read-create
STATUS deprecated
DESCRIPTION

"This object specifies a bitmap of protocol identifiers.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 15 }

natAddrMapInTranslates OBJECT-TYPE

SYNTAX Counter64
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION

"The number of inbound packets pertaining to this address
map entry that were translated.

Discontinuities in the value of this counter can occur
at reinitialization of the management system and at
other times, as indicated by the value of
ifCounterDiscontinuityTime on the relevant interface.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 16 }

natAddrMapOutTranslates OBJECT-TYPE

SYNTAX Counter64
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION

"The number of outbound packets pertaining to this
address map entry that were translated.

Discontinuities in the value of this counter can occur
at reinitialization of the management system and at
other times, as indicated by the value of
ifCounterDiscontinuityTime on the relevant interface.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 17 }

natAddrMapDiscards OBJECT-TYPE

SYNTAX Counter64
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION

"The number of packets pertaining to this address map entry that were dropped due to lack of addresses in the address pool identified by this address map. The value of this object must always be zero in case of a static address map.

Discontinuities in the value of this counter can occur at reinitialization of the management system and at other times, as indicated by the value of ifCounterDiscontinuityTime on the relevant interface. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 18 }

natAddrMapAddrUsed OBJECT-TYPE

SYNTAX Gauge32
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION

"The number of addresses pertaining to this address map that are currently being used from the NAT pool. The value of this object must always be zero in the case of a static address map. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrMapEntry 19 }

natAddrMapStorageType OBJECT-TYPE

SYNTAX StorageType
MAX-ACCESS read-create
STATUS deprecated
DESCRIPTION

"The storage type for this conceptual row. Conceptual rows having the value 'permanent' need not allow write-access to any columnar objects in the row. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659, and Section 2 of RFC 2579 (Textual Conventions for Conventions for SMIV2)."
DEFVAL { nonVolatile }
 ::= { natAddrMapEntry 20 }

natAddrMapRowStatus OBJECT-TYPE


```

SYNTAX      RowStatus
MAX-ACCESS  read-create
STATUS      deprecated
DESCRIPTION
    "The status of this conceptual row.

    Until instances of all corresponding columns are
    appropriately configured, the value of the
    corresponding instance of the natAddrMapRowStatus
    column is 'notReady'.

    None of the objects in this row may be modified
    while the value of this object is active(1).
    Deprecated in favor of NATV2-MIB."
REFERENCE   "RFC 7658, RFC 7659, and Section 2 of RFC 2579
            (Textual Conventions for Conventions for SMIV2)."
```

```
 ::= { natAddrMapEntry 21 }
```

```
--
-- Address Bind section
--
```

```

natAddrBindNumberOfEntries OBJECT-TYPE
    SYNTAX      Gauge32
    MAX-ACCESS  read-only
    STATUS      deprecated
    DESCRIPTION
        "This object maintains a count of the number of entries
        that currently exist in the natAddrBindTable.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    ::= { natMIBObjects 5 }
```

```
--
-- The NAT Address BIND Table
--
```

```

natAddrBindTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF NatAddrBindEntry
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "This table holds information about the currently
        active NAT BINDs.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    ::= { natMIBObjects 6 }
```

natAddrBindEntry OBJECT-TYPE

SYNTAX NatAddrBindEntry

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"Each entry in this table holds information about an active address BIND. These entries are lost upon agent restart.

This row has indexing that may create variables with more than 128 subidentifiers. Implementers of this table must be careful not to create entries that would result in OIDs that exceed the 128 subidentifier limit. Otherwise, the information cannot be accessed using SNMPv1, SNMPv2c, or SNMPv3.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

```
INDEX { ifIndex,
        natAddrBindLocalAddrType,
        natAddrBindLocalAddr }
 ::= { natAddrBindTable 1 }
```

NatAddrBindEntry ::= SEQUENCE {

```
  natAddrBindLocalAddrType      InetAddressType,
  natAddrBindLocalAddr          InetAddress,
  natAddrBindGlobalAddrType     InetAddressType,
  natAddrBindGlobalAddr        InetAddress,
  natAddrBindId                 NatBindId,
  natAddrBindTranslationEntity  NatTranslationEntity,
  natAddrBindType               NatAssociationType,
  natAddrBindMapIndex           NatAddrMapId,
  natAddrBindSessions           Gauge32,
  natAddrBindMaxIdleTime        TimeTicks,
  natAddrBindCurrentIdleTime    TimeTicks,
  natAddrBindInTranslates       Counter64,
  natAddrBindOutTranslates      Counter64
```

}

natAddrBindLocalAddrType OBJECT-TYPE

SYNTAX InetAddressType

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"This object specifies the address type used for natAddrBindLocalAddr.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

```
::= { natAddrBindEntry 1 }
```

natAddrBindLocalAddr OBJECT-TYPE

SYNTAX InetAddress (SIZE (4|16))

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"This object represents the private-realm-specific network-layer address, which maps to the public-realm address represented by natAddrBindGlobalAddr.

The type of this address is determined by the value of the natAddrBindLocalAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

```
::= { natAddrBindEntry 2 }
```

natAddrBindGlobalAddrType OBJECT-TYPE

SYNTAX InetAddressType

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object specifies the address type used for natAddrBindGlobalAddr.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

```
::= { natAddrBindEntry 3 }
```

natAddrBindGlobalAddr OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object represents the public-realm network-layer address that maps to the private-realm network-layer address represented by natAddrBindLocalAddr.

The type of this address is determined by the value of the natAddrBindGlobalAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

```
::= { natAddrBindEntry 4 }
```

natAddrBindId OBJECT-TYPE

SYNTAX NatBindId

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object represents a bind ID that is dynamically assigned to each bind by a NAT-enabled device. Each bind is represented by a bind ID that is unique across both the natAddrBindTable and the natAddrPortBindTable.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrBindEntry 5 }

natAddrBindTranslationEntity OBJECT-TYPE

SYNTAX NatTranslationEntity

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object represents the direction of sessions for which this bind is applicable and the endpoint entity (source or destination) within the sessions that is subject to translation using the BIND.

Orientation of the bind can be a superset of translationEntity of the address map entry that forms the basis for this bind.

For example, if the translationEntity of an address map entry is outboundSrcEndPoint, the translationEntity of a bind derived from this map entry may either be outboundSrcEndPoint or it may be bidirectional (a bitmask of outboundSrcEndPoint and inboundDstEndPoint).

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrBindEntry 6 }

natAddrBindType OBJECT-TYPE

SYNTAX NatAssociationType

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object indicates whether the bind is static or dynamic.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrBindEntry 7 }

natAddrBindMapIndex OBJECT-TYPE

SYNTAX NatAddrMapId

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object is a pointer to the natAddrMapTable entry (and the parameters of that entry) that was used in creating this BIND. This object, in conjunction with the ifIndex (which identifies a unique addrMapName) points to a unique entry in the natAddrMapTable. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrBindEntry 8 }

natAddrBindSessions OBJECT-TYPE

SYNTAX Gauge32

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"Number of sessions currently using this BIND. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrBindEntry 9 }

natAddrBindMaxIdleTime OBJECT-TYPE

SYNTAX TimeTicks

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object indicates the maximum time for which this bind can be idle with no sessions attached to it.

The value of this object is of relevance only for dynamic NAT.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrBindEntry 10 }

natAddrBindCurrentIdleTime OBJECT-TYPE

SYNTAX TimeTicks

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"At any given instance, this object indicates the time that this bind has been idle without any sessions attached to it.

The value of this object is of relevance only for dynamic NAT.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

```
::= { natAddrBindEntry 11 }
```

```
natAddrBindInTranslates OBJECT-TYPE
```

```
SYNTAX      Counter64
MAX-ACCESS  read-only
STATUS      deprecated
DESCRIPTION
```

```
"The number of inbound packets that were successfully
translated by using this bind entry.
```

```
Discontinuities in the value of this counter can occur
at reinitialization of the management system and at
other times, as indicated by the value of
ifCounterDiscontinuityTime on the relevant interface.
Deprecated in favor of NATV2-MIB."
```

```
REFERENCE   "RFC 7658, RFC 7659"
```

```
::= { natAddrBindEntry 12 }
```

```
natAddrBindOutTranslates OBJECT-TYPE
```

```
SYNTAX      Counter64
MAX-ACCESS  read-only
STATUS      deprecated
DESCRIPTION
```

```
"The number of outbound packets that were successfully
translated using this bind entry.
```

```
Discontinuities in the value of this counter can occur
at reinitialization of the management system and at
other times as indicated by the value of
ifCounterDiscontinuityTime on the relevant interface.
Deprecated in favor of NATV2-MIB."
```

```
REFERENCE   "RFC 7658, RFC 7659"
```

```
::= { natAddrBindEntry 13 }
```

```
--
```

```
-- Address Port Bind section
```

```
--
```

```
natAddrPortBindNumberOfEntries OBJECT-TYPE
```

```
SYNTAX      Gauge32
MAX-ACCESS  read-only
STATUS      deprecated
DESCRIPTION
```

```
"This object maintains a count of the number of entries
that currently exist in the natAddrPortBindTable.
Deprecated in favor of NATV2-MIB."
```

```
REFERENCE   "RFC 7658, RFC 7659"
```

```
::= { natMIBObjects 7 }
```

```

--
-- The NAT Address Port Bind Table
--

natAddrPortBindTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF NatAddrPortBindEntry
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "This table holds information about the currently
        active NAPT BINDs.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    ::= { natMIBObjects 8 }

natAddrPortBindEntry OBJECT-TYPE
    SYNTAX      NatAddrPortBindEntry
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "Each entry in the this table holds information
        about a NAPT bind that is currently active.
        These entries are lost upon agent restart.

        This row has indexing that may create variables with
        more than 128 subidentifiers. Implementers of this
        table must be careful not to create entries that would
        result in OIDs that exceed the 128 subidentifier limit.
        Otherwise, the information cannot be accessed using
        SNMPv1, SNMPv2c, or SNMPv3.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    INDEX       { ifIndex, natAddrPortBindLocalAddrType,
                  natAddrPortBindLocalAddr, natAddrPortBindLocalPort,
                  natAddrPortBindProtocol }
    ::= { natAddrPortBindTable 1 }

NatAddrPortBindEntry ::= SEQUENCE {
    natAddrPortBindLocalAddrType      InetAddressType,
    natAddrPortBindLocalAddr          InetAddress,
    natAddrPortBindLocalPort          InetPortNumber,
    natAddrPortBindProtocol           NatProtocolType,
    natAddrPortBindGlobalAddrType     InetAddressType,
    natAddrPortBindGlobalAddr         InetAddress,
    natAddrPortBindGlobalPort         InetPortNumber,
    natAddrPortBindId                 NatBindId,
    natAddrPortBindTranslationEntity  NatTranslationEntity,
    natAddrPortBindType               NatAssociationType,

```

```

    natAddrPortBindMapIndex          NatAddrMapId,
    natAddrPortBindSessions          Gauge32,
    natAddrPortBindMaxIdleTime       TimeTicks,
    natAddrPortBindCurrentIdleTime   TimeTicks,
    natAddrPortBindInTranslates      Counter64,
    natAddrPortBindOutTranslates     Counter64
}

natAddrPortBindLocalAddrType OBJECT-TYPE
    SYNTAX      InetAddressType
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "This object specifies the address type used for
         natAddrPortBindLocalAddr.
         Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    ::= { natAddrPortBindEntry 1 }

natAddrPortBindLocalAddr OBJECT-TYPE
    SYNTAX      InetAddress (SIZE(4|16))
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "This object represents the private-realm-specific
         network-layer address that, in conjunction with
         natAddrPortBindLocalPort, maps to the public-realm
         network-layer address and transport ID represented by
         natAddrPortBindGlobalAddr and natAddrPortBindGlobalPort,
         respectively.

         The type of this address is determined by the value of
         the natAddrPortBindLocalAddrType object.
         Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    ::= { natAddrPortBindEntry 2 }

natAddrPortBindLocalPort OBJECT-TYPE
    SYNTAX      InetPortNumber
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "For a protocol value TCP or UDP, this object represents
         the private-realm-specific port number. On the other
         hand, for ICMP a bind is created only for query/response-
         type ICMP messages such as ICMP echo, Timestamp, and
         Information request messages, and this object represents
         the private-realm-specific identifier in the ICMP

```


message, as defined in RFC 792 for ICMPv4 and in RFC 4443 for ICMPv6.

This object, together with natAddrPortBindProtocol, natAddrPortBindLocalAddrType, and natAddrPortBindLocalAddr, constitutes a session endpoint in the private realm. A bind entry binds a private-realm-specific endpoint to a public-realm-specific endpoint, as represented by the tuple of (natAddrPortBindGlobalPort, natAddrPortBindProtocol, natAddrPortBindGlobalAddrType, and natAddrPortBindGlobalAddr).

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 3 }

natAddrPortBindProtocol OBJECT-TYPE

SYNTAX NatProtocolType

MAX-ACCESS not-accessible

STATUS deprecated

DESCRIPTION

"This object specifies a protocol identifier. If the value of this object is none(1), then this bind entry applies to all IP traffic. Any other value of this object specifies the class of IP traffic to which this BIND applies.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 4 }

natAddrPortBindGlobalAddrType OBJECT-TYPE

SYNTAX InetAddressType

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object specifies the address type used for natAddrPortBindGlobalAddr.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 5 }

natAddrPortBindGlobalAddr OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object represents the public-realm-specific network-layer address that, in conjunction with

natAddrPortBindGlobalPort, maps to the private-realm network-layer address and transport ID represented by natAddrPortBindLocalAddr and natAddrPortBindLocalPort, respectively.

The type of this address is determined by the value of the natAddrPortBindGlobalAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 6 }

natAddrPortBindGlobalPort OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"For a protocol value TCP or UDP, this object represents the public-realm-specific port number. On the other hand, for ICMP a bind is created only for query/response-type ICMP messages such as ICMP echo, Timestamp, and Information request messages, and this object represents the public-realm-specific identifier in the ICMP message, as defined in RFC 792 for ICMPv4 and in RFC 4443 for ICMPv6.

This object, together with natAddrPortBindProtocol, natAddrPortBindGlobalAddrType, and natAddrPortBindGlobalAddr, constitutes a session endpoint in the public realm. A bind entry binds a public-realm-specific endpoint to a private-realm-specific endpoint, as represented by the tuple of (natAddrPortBindLocalPort, natAddrPortBindProtocol, natAddrPortBindLocalAddrType, and natAddrPortBindLocalAddr).

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 7 }

natAddrPortBindId OBJECT-TYPE

SYNTAX NatBindId

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object represents a bind ID that is dynamically assigned to each bind by a NAT-enabled device. Each bind is represented by a unique bind ID across both the natAddrBindTable and the natAddrPortBindTable.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrPortBindEntry 8 }

natAddrPortBindTranslationEntity OBJECT-TYPE

SYNTAX NatTranslationEntity

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object represents the direction of sessions for which this bind is applicable and the entity (source or destination) within the sessions that is subject to translation with the BIND.

Orientation of the bind can be a superset of the translationEntity of the address map entry that forms the basis for this bind.

For example, if the translationEntity of an address map entry is outboundSrcEndPoint, the translationEntity of a bind derived from this map entry may either be outboundSrcEndPoint or may be bidirectional (a bitmask of outboundSrcEndPoint and inboundDstEndPoint).

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrPortBindEntry 9 }

natAddrPortBindType OBJECT-TYPE

SYNTAX NatAssociationType

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object indicates whether the bind is static or dynamic.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrPortBindEntry 10 }

natAddrPortBindMapIndex OBJECT-TYPE

SYNTAX NatAddrMapId

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object is a pointer to the natAddrMapTable entry (and the parameters of that entry) used in creating this BIND. This object, in conjunction with the ifIndex (which identifies a unique addrMapName), points to a unique entry in the natAddrMapTable.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 11 }

natAddrPortBindSessions OBJECT-TYPE

SYNTAX Gauge32

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"Number of sessions currently using this BIND.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 12 }

natAddrPortBindMaxIdleTime OBJECT-TYPE

SYNTAX TimeTicks

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object indicates the maximum time for which this bind can be idle without any sessions attached to it.

The value of this object is of relevance only for dynamic NAT.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 13 }

natAddrPortBindCurrentIdleTime OBJECT-TYPE

SYNTAX TimeTicks

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"At any given instance, this object indicates the time that this bind has been idle without any sessions attached to it.

The value of this object is of relevance only for dynamic NAT.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natAddrPortBindEntry 14 }

natAddrPortBindInTranslates OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The number of inbound packets that were translated as per this bind entry.

Discontinuities in the value of this counter can occur at reinitialization of the management system and at other times, as indicated by the value of ifCounterDiscontinuityTime on the relevant interface. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrPortBindEntry 15 }

natAddrPortBindOutTranslates OBJECT-TYPE

SYNTAX Counter64
 MAX-ACCESS read-only
 STATUS deprecated

DESCRIPTION

"The number of outbound packets that were translated as per this bind entry.

Discontinuities in the value of this counter can occur at reinitialization of the management system and at other times, as indicated by the value of ifCounterDiscontinuityTime on the relevant interface. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natAddrPortBindEntry 16 }

--

-- The Session Table

--

natSessionTable OBJECT-TYPE

SYNTAX SEQUENCE OF NatSessionEntry
 MAX-ACCESS not-accessible
 STATUS deprecated

DESCRIPTION

"The (conceptual) table containing one entry for each NAT session currently active on this NAT device. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natMIBObjects 9 }

natSessionEntry OBJECT-TYPE

SYNTAX NatSessionEntry
 MAX-ACCESS not-accessible
 STATUS deprecated

DESCRIPTION

"An entry (conceptual row) containing information about an active NAT session on this NAT device. These entries are lost upon agent restart. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

INDEX { ifIndex, natSessionIndex }
 ::= { natSessionTable 1 }

```
NatSessionEntry ::= SEQUENCE {
    natSessionIndex                NatSessionId,
    natSessionPrivateSrcEPBindId   NatBindIdOrZero,
    natSessionPrivateSrcEPBindMode NatBindMode,
    natSessionPrivateDstEPBindId   NatBindIdOrZero,
    natSessionPrivateDstEPBindMode NatBindMode,
    natSessionDirection            INTEGER,
    natSessionUpTime               TimeTicks,
    natSessionAddrMapIndex         NatAddrMapId,
    natSessionProtocolType         NatProtocolType,
    natSessionPrivateAddrType      InetAddressType,
    natSessionPrivateSrcAddr       InetAddress,
    natSessionPrivateSrcPort       InetPortNumber,
    natSessionPrivateDstAddr       InetAddress,
    natSessionPrivateDstPort       InetPortNumber,
    natSessionPublicAddrType       InetAddressType,
    natSessionPublicSrcAddr        InetAddress,
    natSessionPublicSrcPort        InetPortNumber,
    natSessionPublicDstAddr        InetAddress,
    natSessionPublicDstPort        InetPortNumber,
    natSessionMaxIdleTime          TimeTicks,
    natSessionCurrentIdleTime      TimeTicks,
    natSessionInTranslates         Counter64,
    natSessionOutTranslates        Counter64
}
```

natSessionIndex OBJECT-TYPE

SYNTAX NatSessionId
MAX-ACCESS not-accessible
STATUS deprecated
DESCRIPTION

"The session ID for this NAT session.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 1 }

natSessionPrivateSrcEPBindId OBJECT-TYPE

SYNTAX NatBindIdOrZero
MAX-ACCESS read-only
STATUS deprecated

DESCRIPTION

"The bind ID associated between private and public source endpoints. In the case of Symmetric-NAT, this should be set to zero.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 2 }

natSessionPrivateSrcEPBindMode OBJECT-TYPE

SYNTAX NatBindMode

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object indicates whether the bind indicated by the object natSessionPrivateSrcEPBindId is an address bind or an address port bind.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 3 }

natSessionPrivateDstepBindId OBJECT-TYPE

SYNTAX NatBindIdOrZero

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The bind ID associated between private and public destination endpoints.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 4 }

natSessionPrivateDstepBindMode OBJECT-TYPE

SYNTAX NatBindMode

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object indicates whether the bind indicated by the object natSessionPrivateDstepBindId is an address bind or an address port bind.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 5 }

natSessionDirection OBJECT-TYPE

SYNTAX INTEGER {
 inbound (1),
 outbound (2)
}

MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION
 "The direction of this session with respect to the local network. 'inbound' indicates that this session was initiated from the public network into the private network. 'outbound' indicates that this session was initiated from the private network into the public network.
 Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natSessionEntry 6 }

natSessionUpTime OBJECT-TYPE
SYNTAX TimeTicks
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION
 "The uptime of this session in hundredths of a second.
 Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natSessionEntry 7 }

natSessionAddrMapIndex OBJECT-TYPE
SYNTAX NatAddrMapId
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION
 "This object is a pointer to the natAddrMapTable entry (and the parameters of that entry) used in creating this session. This object, in conjunction with the ifIndex (which identifies a unique addrMapName), points to a unique entry in the natAddrMapTable.
 Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natSessionEntry 8 }

natSessionProtocolType OBJECT-TYPE
SYNTAX NatProtocolType
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION
 "The protocol type of this session.
 Deprecated in favor of NATV2-MIB."
REFERENCE "RFC 7658, RFC 7659"
 ::= { natSessionEntry 9 }

natSessionPrivateAddrType OBJECT-TYPE

SYNTAX InetAddressType

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object specifies the address type used for natSessionPrivateSrcAddr and natSessionPrivateDstAddr. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 10 }

natSessionPrivateSrcAddr OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The source IP address of the session endpoint that lies in the private network.

The value of this object must be zero only when the natSessionPrivateSrcEPBindId object has a zero value. When the value of this object is zero, the NAT session lookup will match any IP address to this field.

The type of this address is determined by the value of the natSessionPrivateAddrType object. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 11 }

natSessionPrivateSrcPort OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"For a protocol value of TCP or UDP, this object represents the source port in the first packet of a session while in a private realm. On the other hand, when the protocol is ICMP, a NAT session is created only for query/response-type ICMP messages such as ICMP echo, Timestamp, and Information request messages, and this object represents the private-realm specific identifier in the ICMP message, as defined in RFC 792 for ICMPv4 and in RFC 4443 for ICMPv6.

The value of this object must be zero when the natSessionPrivateSrcEPBindId object has zero value and value of natSessionPrivateSrcEPBindMode is

addressPortBind(2). In such a case, the NAT session lookup will match any port number to this field.

The value of this object must be zero when the object is not a representative field (SrcPort, DstPort, or ICMP identifier) of the session tuple in either the public realm or the private realm.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 12 }

natSessionPrivateDstAddr OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The destination IP address of the session endpoint that lies in the private network.

The value of this object must be zero when the natSessionPrivateDstepBindId object has a zero value. In such a scenario, the NAT session lookup will match any IP address to this field.

The type of this address is determined by the value of the natSessionPrivateAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 13 }

natSessionPrivateDstPort OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"When the value of protocol is TCP or UDP, this object represents the destination port in the first packet of session while in private-realm. On the other hand, when the protocol is ICMP, this object is not relevant and should be set to zero.

The value of this object must be zero when the natSessionPrivateDstepBindId object has a zero value and natSessionPrivateDstepBindMode is set to addressPortBind(2). In such a case, the NAT session lookup will match any port number to this field.

The value of this object must be zero when the object

is not a representative field (SrcPort, DstPort, or ICMP identifier) of the session tuple in either the public realm or the private realm.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 14 }

natSessionPublicAddrType OBJECT-TYPE

SYNTAX InetAddressType

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"This object specifies the address type used for natSessionPublicSrcAddr and natSessionPublicDstAddr. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 15 }

natSessionPublicSrcAddr OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The source IP address of the session endpoint that lies in the public network.

The value of this object must be zero when the natSessionPrivateSrcEPBindId object has a zero value. In such a scenario, the NAT session lookup will match any IP address to this field.

The type of this address is determined by the value of the natSessionPublicAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 16 }

natSessionPublicSrcPort OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"When the protocol value is TCP or UDP, this object represents the source port in the first packet of session while in public-realm. On the other hand, when protocol is ICMP, a NAT session is created only for query/response-type ICMP messages such as ICMP echo, Timestamp, and Information request messages, and this

object represents the public-realm-specific identifier in the ICMP message, as defined in RFC 792 for ICMPv4 and in RFC 4443 for ICMPv6.

The value of this object must be zero when the natSessionPrivateSrcEPBindId object has a zero value and natSessionPrivateSrcEPBindMode is set to addressPortBind(2). In such a scenario, the NAT session lookup will match any port number to this field.

The value of this object must be zero when the object is not a representative field (SrcPort, DstPort, or ICMP identifier) of the session tuple in either the public realm or the private realm.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 17 }

natSessionPublicDstAddr OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The destination IP address of the session endpoint that lies in the public network.

The value of this object must be non-zero when the natSessionPrivateDstEPBindId object has a non-zero value. If the value of this object and the corresponding natSessionPrivateDstEPBindId object value are zero, then the NAT session lookup will match any IP address to this field.

The type of this address is determined by the value of the natSessionPublicAddrType object.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 18 }

natSessionPublicDstPort OBJECT-TYPE

SYNTAX InetPortNumber

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"When the protocol value is TCP or UDP, this object represents the destination port in the first packet of session while in the public realm. On the other hand, when

the protocol is ICMP, this object is not relevant for translation and should be zero.

The value of this object must be zero when the natSessionPrivateDstEPBindId object has a zero value and natSessionPrivateDstEPBindMode is addressPortBind(2). In such a scenario, the NAT session lookup will match any port number to this field.

The value of this object must be zero when the object is not a representative field (SrcPort, DstPort, or ICMP identifier) of the session tuple in either the public realm or the private realm.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 19 }

natSessionMaxIdleTime OBJECT-TYPE

SYNTAX TimeTicks

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The max time for which this session can be idle without detecting a packet.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 20 }

natSessionCurrentIdleTime OBJECT-TYPE

SYNTAX TimeTicks

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The time since a packet belonging to this session was last detected.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

::= { natSessionEntry 21 }

natSessionInTranslates OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION

"The number of inbound packets that were translated for this session.

Discontinuities in the value of this counter can occur at reinitialization of the management system and at other times, as indicated by the value of ifCounterDiscontinuityTime on the relevant interface. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natSessionEntry 22 }

natSessionOutTranslates OBJECT-TYPE

SYNTAX Counter64
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION

"The number of outbound packets that were translated for this session.

Discontinuities in the value of this counter can occur at reinitialization of the management system and at other times, as indicated by the value of ifCounterDiscontinuityTime on the relevant interface. Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natSessionEntry 23 }

--

-- The Protocol table

--

natProtocolTable OBJECT-TYPE

SYNTAX SEQUENCE OF NatProtocolEntry
MAX-ACCESS not-accessible
STATUS deprecated
DESCRIPTION

"The (conceptual) table containing per-protocol NAT statistics.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natMIBObjects 10 }

natProtocolEntry OBJECT-TYPE

SYNTAX NatProtocolEntry
MAX-ACCESS not-accessible
STATUS deprecated
DESCRIPTION

"An entry (conceptual row) containing NAT statistics pertaining to a particular protocol.

Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"

```

INDEX { natProtocol }
 ::= { natProtocolTable 1 }

NatProtocolEntry ::= SEQUENCE {
    natProtocol          NatProtocolType,
    natProtocolInTranslates Counter64,
    natProtocolOutTranslates Counter64,
    natProtocolDiscards Counter64
}

natProtocol OBJECT-TYPE
    SYNTAX      NatProtocolType
    MAX-ACCESS  not-accessible
    STATUS      deprecated
    DESCRIPTION
        "This object represents the protocol pertaining to which
        parameters are reported.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    ::= { natProtocolEntry 1 }

natProtocolInTranslates OBJECT-TYPE
    SYNTAX      Counter64
    MAX-ACCESS  read-only
    STATUS      deprecated
    DESCRIPTION
        "The number of inbound packets pertaining to the protocol
        identified by natProtocol that underwent NAT.

        Discontinuities in the value of this counter can occur
        at reinitialization of the management system and at
        other times, as indicated by the value of
        ifCounterDiscontinuityTime on the relevant interface.
        Deprecated in favor of NATV2-MIB."
    REFERENCE   "RFC 7658, RFC 7659"
    ::= { natProtocolEntry 2 }

natProtocolOutTranslates OBJECT-TYPE
    SYNTAX      Counter64
    MAX-ACCESS  read-only
    STATUS      deprecated
    DESCRIPTION
        "The number of outbound packets pertaining to the
        protocol identified by natProtocol that underwent NAT.

        Discontinuities in the value of this counter can occur
        at reinitialization of the management system and at
        other times, as indicated by the value of

```

ifCounterDiscontinuityTime on the relevant interface.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natProtocolEntry 3 }

natProtocolDiscards OBJECT-TYPE

SYNTAX Counter64
MAX-ACCESS read-only
STATUS deprecated
DESCRIPTION

"The number of packets pertaining to the protocol identified by natProtocol that had to be rejected/dropped due to lack of resources. These rejections could be due to session timeout, resource unavailability, lack of address space, etc.

Discontinuities in the value of this counter can occur at reinitialization of the management system and at other times, as indicated by the value of ifCounterDiscontinuityTime on the relevant interface.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natProtocolEntry 4 }

--
-- Notifications section
--

natMIBNotifications OBJECT IDENTIFIER ::= { natMIB 0 }

--
-- Notifications
--

natPacketDiscard NOTIFICATION-TYPE

OBJECTS { ifIndex }
STATUS deprecated
DESCRIPTION

"This notification is generated when IP packets are discarded by the NAT function; e.g., due to lack of mapping space when NAT is out of addresses or ports.

Note that the generation of natPacketDiscard notifications is throttled by the agent, as specified by the 'natNotifThrottlingInterval' object.
Deprecated in favor of NATV2-MIB."

REFERENCE "RFC 7658, RFC 7659"
 ::= { natMIBNotifications 1 }


```
--
-- Conformance information.
--

natMIBConformance OBJECT IDENTIFIER ::= { natMIB 2 }

natMIBGroups      OBJECT IDENTIFIER ::= { natMIBConformance 1 }
natMIBCompliances OBJECT IDENTIFIER ::= { natMIBConformance 2 }

--
-- Units of conformance
--

natConfigGroup OBJECT-GROUP
  OBJECTS { natInterfaceRealm,
            natInterfaceServiceType,
            natInterfaceStorageType,
            natInterfaceRowStatus,
            natAddrMapName,
            natAddrMapEntryType,
            natAddrMapTranslationEntity,
            natAddrMapLocalAddrType,
            natAddrMapLocalAddrFrom,
            natAddrMapLocalAddrTo,
            natAddrMapLocalPortFrom,
            natAddrMapLocalPortTo,
            natAddrMapGlobalAddrType,
            natAddrMapGlobalAddrFrom,
            natAddrMapGlobalAddrTo,
            natAddrMapGlobalPortFrom,
            natAddrMapGlobalPortTo,
            natAddrMapProtocol,
            natAddrMapStorageType,
            natAddrMapRowStatus,
            natBindDefIdleTimeout,
            natUdpDefIdleTimeout,
            natIcmpDefIdleTimeout,
            natOtherDefIdleTimeout,
            natTcpDefIdleTimeout,
            natTcpDefNegTimeout,
            natNotifThrottlingInterval }
  STATUS deprecated
  DESCRIPTION
    "A collection of configuration-related information
    required to support management of devices supporting
    NAT.
    Deprecated in favor of NATV2-MIB."
  REFERENCE "RFC 7658, RFC 7659"
```

```
::= { natMIBGroups 1 }
```

```
natTranslationGroup OBJECT-GROUP
```

```
OBJECTS { natAddrBindNumberOfEntries,  
  natAddrBindGlobalAddrType,  
  natAddrBindGlobalAddr,  
  natAddrBindId,  
  natAddrBindTranslationEntity,  
  natAddrBindType,  
  natAddrBindMapIndex,  
  natAddrBindSessions,  
  natAddrBindMaxIdleTime,  
  natAddrBindCurrentIdleTime,  
  natAddrBindInTranslates,  
  natAddrBindOutTranslates,  
  natAddrPortBindNumberOfEntries,  
  natAddrPortBindGlobalAddrType,  
  natAddrPortBindGlobalAddr,  
  natAddrPortBindGlobalPort,  
  natAddrPortBindId,  
  natAddrPortBindTranslationEntity,  
  natAddrPortBindType,  
  natAddrPortBindMapIndex,  
  natAddrPortBindSessions,  
  natAddrPortBindMaxIdleTime,  
  natAddrPortBindCurrentIdleTime,  
  natAddrPortBindInTranslates,  
  natAddrPortBindOutTranslates,  
  natSessionPrivateSrcEPBindId,  
  natSessionPrivateSrcEPBindMode,  
  natSessionPrivateDstEPBindId,  
  natSessionPrivateDstEPBindMode,  
  natSessionDirection,  
  natSessionUpTime,  
  natSessionAddrMapIndex,  
  natSessionProtocolType,  
  natSessionPrivateAddrType,  
  natSessionPrivateSrcAddr,  
  natSessionPrivateSrcPort,  
  natSessionPrivateDstAddr,  
  natSessionPrivateDstPort,  
  natSessionPublicAddrType,  
  natSessionPublicSrcAddr,  
  natSessionPublicSrcPort,  
  natSessionPublicDstAddr,  
  natSessionPublicDstPort,  
  natSessionMaxIdleTime,  
  natSessionCurrentIdleTime,
```

```
        natSessionInTranslates,
        natSessionOutTranslates }
STATUS deprecated
DESCRIPTION
    "A collection of BIND-related objects required to support
    management of devices supporting NAT.
    Deprecated in favor of NATV2-MIB."
REFERENCE    "RFC 7658, RFC 7659"
 ::= { natMIBGroups 2 }

natStatsInterfaceGroup OBJECT-GROUP
OBJECTS { natInterfaceInTranslates,
          natInterfaceOutTranslates,
          natInterfaceDiscards }
STATUS deprecated
DESCRIPTION
    "A collection of NAT statistics associated with the
    interface on which NAT is configured, to aid
    troubleshooting/monitoring of the NAT operation.
    Deprecated in favor of NATV2-MIB."
REFERENCE    "RFC 7658, RFC 7659"
 ::= { natMIBGroups 3 }

natStatsProtocolGroup OBJECT-GROUP
OBJECTS { natProtocolInTranslates,
          natProtocolOutTranslates,
          natProtocolDiscards }
STATUS deprecated
DESCRIPTION
    "A collection of protocol-specific NAT statistics,
    to aid troubleshooting/monitoring of NAT operation.
    Deprecated in favor of NATV2-MIB."
REFERENCE    "RFC 7658, RFC 7659"
 ::= { natMIBGroups 4 }

natStatsAddrMapGroup OBJECT-GROUP
OBJECTS { natAddrMapInTranslates,
          natAddrMapOutTranslates,
          natAddrMapDiscards,
          natAddrMapAddrUsed }
STATUS deprecated
DESCRIPTION
    "A collection of address-map-specific NAT statistics,
    to aid troubleshooting/monitoring of NAT operation.
    Deprecated in favor of NATV2-MIB."
REFERENCE    "RFC 7658, RFC 7659"
 ::= { natMIBGroups 5 }
```

```

natMIBNotificationGroup NOTIFICATION-GROUP
  NOTIFICATIONS { natPacketDiscard }
  STATUS      deprecated
  DESCRIPTION
    "A collection of notifications generated by
    devices supporting this MIB.
    Deprecated in favor of NATV2-MIB."
  REFERENCE   "RFC 7658, RFC 7659"
  ::= { natMIBGroups 6 }

--
-- Compliance statements
--

natMIBFullCompliance MODULE-COMPLIANCE
  STATUS      deprecated
  DESCRIPTION
    "When this MIB is implemented with support for
    read-create, then such an implementation can claim
    full compliance.  Such devices can then be both
    monitored and configured with this MIB.

    The following index objects cannot be added as OBJECT
    clauses but nevertheless have the compliance
    requirements:

    Deprecated in favor of NATV2-MIB."
  REFERENCE   "RFC 7658, RFC 7659"
  -- OBJECT   natAddrBindLocalAddrType
  -- SYNTAX   InetAddressType { ipv4(1), ipv6(2) }
  -- DESCRIPTION
  --         "An implementation is required to support
  --         global IPv4 and/or IPv6 addresses, depending
  --         on its support for IPv4 and IPv6."
  -- OBJECT   natAddrBindLocalAddr
  -- SYNTAX   InetAddress (SIZE(4|16))
  -- DESCRIPTION
  --         "An implementation is required to support
  --         global IPv4 and/or IPv6 addresses, depending
  --         on its support for IPv4 and IPv6."
  -- OBJECT   natAddrPortBindLocalAddrType
  -- SYNTAX   InetAddressType { ipv4(1), ipv6(2) }
  -- DESCRIPTION
  --         "An implementation is required to support
  --         global IPv4 and/or IPv6 addresses, depending
  --         on its support for IPv4 and IPv6."

```

```

-- OBJECT  natAddrPortBindLocalAddr
-- SYNTAX  InetAddress (SIZE(4|16))
-- DESCRIPTION
--          "An implementation is required to support
--          global IPv4 and/or IPv6 addresses, depending
--          on its support for IPv4 and IPv6."

```

MODULE IF-MIB -- The interfaces MIB, RFC2863

```

MANDATORY-GROUPS {
    ifCounterDiscontinuityGroup
}

```

MODULE -- this module

```

MANDATORY-GROUPS { natConfigGroup, natTranslationGroup,
    natStatsInterfaceGroup }

```

```

GROUP      natStatsProtocolGroup
DESCRIPTION
    "This group is optional."

```

```

GROUP      natStatsAddrMapGroup
DESCRIPTION
    "This group is optional."

```

```

GROUP      natMIBNotificationGroup
DESCRIPTION
    "This group is optional."

```

```

OBJECT  natAddrMapLocalAddrType
SYNTAX  InetAddressType { ipv4(1), ipv6(2) }
DESCRIPTION
    "An implementation is required to support global IPv4
    and/or IPv6 addresses, depending on its support
    for IPv4 and IPv6."

```

```

OBJECT  natAddrMapLocalAddrFrom
SYNTAX  InetAddress (SIZE(4|16))
DESCRIPTION
    "An implementation is required to support global IPv4
    and/or IPv6 addresses, depending on its support
    for IPv4 and IPv6."

```

```

OBJECT  natAddrMapLocalAddrTo
SYNTAX  InetAddress (SIZE(4|16))
DESCRIPTION
    "An implementation is required to support global IPv4
    and/or IPv6 addresses, depending on its support
    for IPv4 and IPv6."

```

```

OBJECT  natAddrMapGlobalAddrType

```

SYNTAX InetAddressType { ipv4(1), ipv6(2) }
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrMapGlobalAddrFrom
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrMapGlobalAddrTo
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrBindGlobalAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrBindGlobalAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrPortBindGlobalAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrPortBindGlobalAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natSessionPrivateAddrType
 SYNTAX InetAddressType { ipv4(1), ipv6(2) }
 DESCRIPTION
 "An implementation is required to support global IPv4
 and/or IPv6 addresses, depending on its support
 for IPv4 and IPv6."

OBJECT natSessionPrivateSrcAddr
 SYNTAX InetAddress (SIZE(4|16))
 DESCRIPTION
 "An implementation is required to support global IPv4
 and/or IPv6 addresses, depending on its support
 for IPv4 and IPv6."

OBJECT natSessionPrivateDstAddr
 SYNTAX InetAddress (SIZE(4|16))
 DESCRIPTION
 "An implementation is required to support global IPv4
 and/or IPv6 addresses, depending on its support
 for IPv4 and IPv6."

OBJECT natSessionPublicAddrType
 SYNTAX InetAddressType { ipv4(1), ipv6(2) }
 DESCRIPTION
 "An implementation is required to support global IPv4
 and/or IPv6 addresses, depending on its support
 for IPv4 and IPv6."

OBJECT natSessionPublicSrcAddr
 SYNTAX InetAddress (SIZE(4|16))
 DESCRIPTION
 "An implementation is required to support global IPv4
 and/or IPv6 addresses, depending on its support
 for IPv4 and IPv6."

OBJECT natSessionPublicDstAddr
 SYNTAX InetAddress (SIZE(4|16))
 DESCRIPTION
 "An implementation is required to support global IPv4
 and/or IPv6 addresses, depending on its support
 for IPv4 and IPv6."

::= { natMIBCompliances 1 }

natMIBReadOnlyCompliance MODULE-COMPLIANCE
 STATUS deprecated
 DESCRIPTION

"When this MIB is implemented without support for read-create (i.e., in read-only mode), then such an implementation can claim read-only compliance. Such a device can then be monitored but cannot be configured with this MIB.

The following index objects cannot be added as OBJECT clauses but nevertheless have the compliance requirements:

Deprecated in favor of NATV2-MIB."

```

REFERENCE  "RFC 7658, RFC 7659"
-- OBJECT  natAddrBindLocalAddrType
-- SYNTAX  InetAddressType { ipv4(1), ipv6(2) }
-- DESCRIPTION
--          "An implementation is required to support
--          global IPv4 and/or IPv6 addresses, depending
--          on its support for IPv4 and IPv6."

-- OBJECT  natAddrBindLocalAddr
-- SYNTAX  InetAddress (SIZE(4|16))

-- DESCRIPTION
--          "An implementation is required to support
--          global IPv4 and/or IPv6 addresses, depending
--          on its support for IPv4 and IPv6."

-- OBJECT  natAddrPortBindLocalAddrType
-- SYNTAX  InetAddressType { ipv4(1), ipv6(2) }
-- DESCRIPTION
--          "An implementation is required to support
--          global IPv4 and/or IPv6 addresses, depending
--          on its support for IPv4 and IPv6."

-- OBJECT  natAddrPortBindLocalAddr
-- SYNTAX  InetAddress (SIZE(4|16))
-- DESCRIPTION
--          "An implementation is required to support
--          global IPv4 and/or IPv6 addresses, depending
--          on its support for IPv4 and IPv6."

MODULE IF-MIB -- The interfaces MIB, RFC 2863
  MANDATORY-GROUPS {
    ifCounterDiscontinuityGroup
  }

MODULE -- this module
  MANDATORY-GROUPS { natConfigGroup, natTranslationGroup,
    natStatsInterfaceGroup }

```



```
GROUP      natStatsProtocolGroup
DESCRIPTION
    "This group is optional."
GROUP      natStatsAddrMapGroup
DESCRIPTION
    "This group is optional."
GROUP      natMIBNotificationGroup
DESCRIPTION
    "This group is optional."
OBJECT natInterfaceRowStatus
SYNTAX RowStatus { active(1) }
MIN-ACCESS read-only
DESCRIPTION
    "Write access is not required, and active is the only
    status that needs to be supported."

OBJECT natAddrMapLocalAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
MIN-ACCESS read-only
DESCRIPTION
    "Write access is not required.  An implementation is
    required to support global IPv4 and/or IPv6 addresses,
    depending on its support for IPv4 and IPv6."

OBJECT natAddrMapLocalAddrFrom
SYNTAX InetAddress (SIZE(4|16))
MIN-ACCESS read-only
DESCRIPTION
    "Write access is not required.  An implementation is
    required to support global IPv4 and/or IPv6 addresses,
    depending on its support for IPv4 and IPv6."

OBJECT natAddrMapLocalAddrTo
SYNTAX InetAddress (SIZE(4|16))
MIN-ACCESS read-only
DESCRIPTION
    "Write access is not required.  An implementation is
    required to support global IPv4 and/or IPv6 addresses,
    depending on its support for IPv4 and IPv6."

OBJECT natAddrMapGlobalAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
MIN-ACCESS read-only
DESCRIPTION
    "Write access is not required.  An implementation is
    required to support global IPv4 and/or IPv6 addresses,
    depending on its support for IPv4 and IPv6."
```

OBJECT natAddrMapGlobalAddrFrom
SYNTAX InetAddress (SIZE(4|16))
MIN-ACCESS read-only
DESCRIPTION
"Write access is not required. An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrMapGlobalAddrTo
SYNTAX InetAddress (SIZE(4|16))
MIN-ACCESS read-only
DESCRIPTION
"Write access is not required. An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrMapRowStatus
SYNTAX RowStatus { active(1) }
MIN-ACCESS read-only
DESCRIPTION
"Write access is not required, and active is the only status that needs to be supported."

OBJECT natAddrBindGlobalAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrBindGlobalAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrPortBindGlobalAddrType
SYNTAX InetAddressType { ipv4(1), ipv6(2) }
DESCRIPTION
"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natAddrPortBindGlobalAddr
SYNTAX InetAddress (SIZE(4|16))
DESCRIPTION
"An implementation is required to support global IPv4

and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natSessionPrivateAddrType

SYNTAX InetAddressType { ipv4(1), ipv6(2) }

DESCRIPTION

"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natSessionPrivateSrcAddr

SYNTAX InetAddress (SIZE(4|16))

DESCRIPTION

"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natSessionPrivateDstAddr

SYNTAX InetAddress (SIZE(4|16))

DESCRIPTION

"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natSessionPublicAddrType

SYNTAX InetAddressType { ipv4(1), ipv6(2) }

DESCRIPTION

"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natSessionPublicSrcAddr

SYNTAX InetAddress (SIZE(4|16))

DESCRIPTION

"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

OBJECT natSessionPublicDstAddr

SYNTAX InetAddress (SIZE(4|16))

DESCRIPTION

"An implementation is required to support global IPv4 and/or IPv6 addresses, depending on its support for IPv4 and IPv6."

::= { natMIBCompliances 2 }

END

5. Security Considerations

All objects in this MIB module have been deprecated. As a result, the security considerations in [RFC7659] apply instead. Amongst other matters, these considerations cover the case where both this MIB module and NATV2-MIB are present. In fact, such a situation is unlikely because [RFC4008], as a MIB module oriented toward configuration, was overtaken by events and saw little implementation.

6. IANA Considerations

IANA has assigned object identifier 123 to the natMIB module, with prefix iso.org.dod.internet.mgmt.mib-2 in the Network Management Parameters registry [SMI-NUMBERS].

IANA has marked that identifier as DEPRECATED and updated the reference from [RFC4008] to the present document.

7. References

7.1. Normative References

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[SMI-NUMBERS]

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